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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,275	09/28/2005	Tetsuya Takahashi	125389	1596

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EXAMINER

GOFF II, JOHN L

ART UNIT	PAPER NUMBER
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1733

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,275	Applicant(s) TAKAHASHI, TETSUYA	
	Examiner John L. Goff	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/28/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuda et al. (U.S. Patent Application Publication 2002/0157242).

Fukuda et al. disclose a method of manufacturing an electrochemical device such as an electrolyte battery with an improved hermetic seal at the leads comprising an electrochemical device matrix (3 of Figure 4(d)) including first and second electrodes opposing each other, a case formed by first and second films (5t and 5p of Figure 4(d)) opposing each other for accommodating the electrochemical device in a closed state, a first lead (4 of Figure 4(d)) having one end part connected to the first electrode and the other end part projecting out of the case, and a second lead (4 of Figure 4(d)) having one end part connected to the second electrode and the other end part projecting out of the case, arranging the first and second films such that respective fringes thereof are in contact with each other between a pair of heating members (10a and 10b of Figure 1) opposing each other, heating at least one of the pair of heating members while a contact portion of the fringes is pressed so as to thermally fuse the first and second films to each other and wherein at least one of the pair of heating members is formed with grooves (11 of Figure 1) having respective forms in conformity to forms of cross sections of the first and second

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leads at a part where the first and second leads are placed between the fringes of the first and second films (Figures 1 and 4 and Paragraphs 0038-0040, 0042, 0044, and 0045).

Regarding claim 2, Fukuda et al. teach the leads are made of metal each having a thickness of 50 to 200 μm (Paragraph 0040).

Regarding claim 7, Fukuda et al. teach the first and second films are a composite package film comprising at least an innermost layer made of a synthetic resin (24 of Figure 6(a)) considered in contact with an electrolytic solution of the battery and a metal layer disposed above the innermost layer (22 of Figure 6(a)) (Figure 6 and Paragraphs 0053 and 0066).

Regarding claims 8 and 9, Fukuda et al. teach an adhesive (6 of Figure 9) made of a synthetic resin is applied before the thermal fusion step is carried out to a surface portion of the first lead coming into contact with the fringe of the first film to be thermally fused and the fringe of the second film to be thermally fused and to a surface portion of the second lead coming into contact with the fringe of the first film to be thermally fused and the fringe of the second film to be thermally fused where the adhesive comprises acid-denatured polypropylene or acid-denatured polyethylene (Figure 9 and Paragraphs 0087 and 0088).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 2, and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroshi (JP 2000-294221 and see also the machine translation) in view of Fukuda et al., and in the alternative, Fukuda et al. in view of Hiroshi.

Hiroshi discloses a method of manufacturing an electrochemical device such as an electrolyte battery that is light-weight and safe comprising providing a case formed by first and second films opposing each other for accommodating the electrochemical device in a closed state, an electrochemical device matrix (1 of Figure 1) including first and second electrodes having a flat form and containing an electronically conductive porous body as a constituent material, a separator made of an insulative porous body having a flat form, and an electrolytic solution that fills the case such that the electrolytic solution is at least partly contained in the first and second electrodes and the separator, a first lead (5 of Figure 1) having one end part connected to the first electrode and the other end part projecting out of the case, a second lead (6 of Figure 1) having one end part connected to the second electrode and the other end part projecting out of the case, arranging the first and second films such that respective fringes thereof are in contact with each other, and thermally fusing (A' of Figure 1) the first and second films to each other (Figures 1 and 2 and Paragraphs 0030-0042). Hiroshi is silent at to performing the thermal fusing by arranging the first and second films such that respective fringes thereof are in contact with each other between a pair of heating members opposing each other at least one of the pair of heating members formed with grooves having respective forms in conformity to forms of cross-sections of the first and second leads at a part where the first and second leads are placed between the fringes of the first and second films. As described in full detail above, Fukuda et al. disclose a method of manufacturing an electrochemical device such as

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an electrolyte battery using a pair of heating members that provide an improved hermetic seal at the leads. It would have been obvious to one of ordinary skill in the art at the time the invention was made to perform the thermal fusing as taught by Hiroshi using the method shown by Fukuda et al. including using a pair of heating members formed with grooves to form the electrolyte battery with an improved hermetic seal at the leads. In the alternative, Fukuda et al. does not require any particular electrochemical device matrix such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the electrochemical device matrix taught by Fukuda et al. the electrochemical device matrix shown by Hiroshi to form a light-weight and safe electrolyte battery.

Regarding claims 2 and 5, Hiroshi teaches the leads are made of metal each having a thickness of 100 μm and a cross-sectional area of 30 mm^2 (Paragraph 0037 and 0038).

Regarding claim 7, Hiroshi teaches the first and second films are a composite package film comprising at least an innermost layer made of a synthetic resin (12 of Figure 2) considered in contact with an electrolytic solution of the battery and a metal layer disposed above the innermost layer (11 of Figure 2) (Figure 21 and Paragraphs 0041).

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. in view of Yoshie et al. (JP61-198550 and see also the abstract).

Fukuda et al. as applied above teach all of the limitations in claims 3 and 4 except for a specific teaching that a portion coming into contact with the first and second leads in the fringe to be thermally fused in at least one of the first and second films is deformed by drawing beforehand so as to have respective forms and sizes in conformity to forms and sizes of cross sections of the first and second leads, it being noted Fukuda et al. teach the fringes of the first

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and/or second sheets may undergo a deforming by a drawing process beforehand to impart a preformed shape to fringes of the first and/or second films (Figure 5 and Paragraph 0052).

Yoshie et al. disclose a method of manufacturing an electrochemical device such as an electrolyte battery that has accurately centered leads wherein the case has a preformed shape in the fringe (8d and 8d' of Figure 1) having forms and sizes in conformity to forms and sizes of cross sections of the first and second leads connected to first and second electrodes of an electrochemical device matrix before the leads are secured to the case (Figure 1 and the abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the drawn and deformed fringe regions of the first and second films taught by Fukuda et al. a deformed region having forms and sizes in conformity to forms and sizes of cross sections of the first and second leads as shown by Yoshie et al. to accurately center the leads.

6. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. and Hiroshi as applied to claims 1, 2, and 5-9 above, and further in view of Yoshie et al.

Yoshie et al. is applied to Fukuda et al. and Hiroshi (both Hiroshi as modified by Fukuda et al. and Fukuda et al. as modified by Hiroshi) in the same manner as that specifically described above in paragraph 5 to Fukuda et al.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John L. Goff
Primary Examiner
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